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ABSTRACT

Examples are given of how schema and classification skills, presented bilingually, can be used by classroom teachers to teach Spanish-speaking high school students how to infer the main idea of paragraphs in English. The instructional model is one in which the student learns to identify the main idea of a selection in a series of exercises that progress from simple categorization tasks to the complex task of identifying and then writing the implied main idea of a 70-word selection. The alternative bilingual approach is used, with more exercises gradually presented in English than in Spanish. Components include the following: classification of concrete objects; classification using pictures; and abstract classification (word, sentences, and paragraphs). Sample lessons are included. Contains 11 references. (Author/LB)

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USING BILINGUAL CLASSIFICATION EXERCISES TO TEACH INFERENCE TO SPANISH-SPEAKING HIGH SCHOOL STUDENTS

by

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Running Head: Using Bilingual Classification

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Abstract

Downing and Leong (1982), Adams and collins (1979), Barrett (1968) and Gerhard (1975) conclude that schema and classification skills are important in reading skill development. Recent research in reading conducted with English-speaking secondary students (Berget and Valverde, 1983, Hadsell, 1978, and Stein, 1979), indicated support for the use of sequentially developed lessons to teach them inferential reading skills. This report provides examples of how this type of instruction, presented bilingually, can be utilized by classroom teachers to teach Spanish-speaking high school students how to infer the main idea of paragraphs in English.

INTRODUCTION

Data from the U.S. Census and the U.S. Department of Education indicate that Hispanics, aged 14 - 19, are twice as likely not to have completed high school as white non-Hispanics (Brown, Rosen and Hill, 1980). These data have not changed substantially during the past twenty years (Cummins, 1986). Since many of these students encounter problems learning to read in English, it seems reasonable to assume that reading difficulties may be a contributing factor to their drop-out rate.

Reading comprehension is a complex topic encompassing many subtopics. In order to assist a class of Hispanic teenagers whose English reading and writing skills were limited, I developed a program structured on strategies reported in recent research. A search of the literature indicated classification techniques were implemented to improve the reading comprehension of English-speaking students. Positive results had been reported between subjects' ability to apply classification skills and to identify main ideas of reading selections (Hadsell, 1978; Stein, 1979; Tingly, 1980; Berget and Valverde, 1983). This model was based on Lowery's research (1981) which suggests that exercises utilizing the students' classification skills can be used to teach content area concepts. Such strategies also appear to help bilingual or Spanish-language dominant adolescents learn inference (McInnes, 1987).

Other studies suggest a positive relationship between English and Spanish reading achievement. For example, research by Kaufman (1968) and Escamilla (1985) indicated positive

correlations between Spanish and English reading. Therefore, I decided to design the exercises so they would be presented bilingually.

As there is a practical need to move from Spanish to English reading, the "alternate language" approach was selected, based on the bilingual model discribed by Mackey (1978). In this model, the language of the lesson alternates. In the beginning exercises, the dominant language, e.g. Spanish, is used more frequently than English in presenting instruction. As the lessons progress, English gradually becomes the dominant language of instruction.

INSTRUCTIONAL MODEL

I provided instruction in identifying the main idea of a selection in a series of exercises that progressed from simple categorizaton tasks to the complex task of identifying and then writing the implied main idea of a 70-word selection. The approach used in each of these levels is outlined in Table 1.

Insert Table 1 about here

With the exception of the concrete classification exercises which were taught entirely in Spanish, I used the alternative bilingual approach described earlier. For example, during one class period, if the students completed three exercises in Spanish, this was immediately followed by two similar exercises presented in English. The number of presentations in one class period was dependent upon the difficulty of each task. As the exercises progressed, more exercises were presented in English

than in Spanish.

Before beginning each series of exercises, I introduced the type of classification activities, e.g., classifying objects, that the students were going to learn. In addition, I told the students that they were learning strategies that would help them identify the main idea of paragraphs. I also told the students that the first part of the exercises, i.e, the concrete and pictorial classification tasks, were going to be a review for them, but they would need to refer to these classification strategies as the exercises increased in complexity.

Classification of Concrete Objects (presented in Spanish)

The exercises used at this level followed Lowery's interpretation of the use of class-inclusion skills, i.e., classifying in part-whole relationships, to teach content area concepts. Since the skill of classifying concrete objects was one already mastered by the students, the tasks included at this level would later serve as an analogous model for them, linking the more abstract and unfamiliar tasks that followed with those they already could perform. The concrete classification exercises oriented the students to think in part-whole relationships. I presented three concrete classification exercises, using a variety of objects, including, colored paper shapes, leaves, and beads. Thus, while the instructions remained essentially the same, the objects to be classified were changed. An example of a lesson involving concrete objects is presented in Figure 1.

Insert Figure 1 about here

I encouraged the students to describe the processes they used to select the shapes and colors they put into their envelopes. This first series of exercises took a total of 30 minutes to complete.

Classification Using Pictures (presented bilingually: exercises 1, 2, and 3 in Spanish, and exercise 4 in English)

In the next level of difficulty, classification of pictures, the students completed four classification exercises, using a variety of pictures. The concept applied was identical to that of the concrete exercises, i.e., part-whole relationships. Exercises 1, 2, and 3 were whole class activities. Exercise 4, included small group activities.

The pictures included:

1. a picture of a tree on a winter day
2. a picture of a Mexican fiesta
3. jig-saw pictures in four parts of: an expensive automobile, a small bird and its mother, a woman.
4. 3 different sets of envelopes containing 9 pictures each. The sets of pictures included items found in a typical supermarket, a farm, and a city.

In each exercise, the students were asked to examine the "parts" and then to identify the topic of each group of pictures. For example, all the students looked at two pictures: a) a single tree against a cloudy, dismal background, b) a Mexican fiesta, including a table with food, mariachis, people talking. First, they examined the details in each picture and named them. Next, they wrote what they thought was the topic of the pictures. I

pointed out they were able to infer the "whole," that is the topic of the pictures by first looking at the relationship among the details and then how these related to the general topic. Next, I explored with the students the strategies they used to identify the topic of the pictures. I followed the same procedure with the other pictorial exercises.

For the next exercises, I asked the students to work in pairs. I gave each pair three envelopes, each containing nine related pictures that belonged to a larger topic, e.g., a supermarket. I asked the students to group the pictures from each envelope and then write the topic of the pictures (supermarket, city, farm) on the outside of each envelope. After the students practiced classifying the pictures, I led a discussion, pointing out the relationship between the array of pictures and the specific topic of each group. I also reviewed the strategy the students used to identify part-whole relationships. For example, I asked the students, "How are these items related? How do they relate to the topic?" The entire set of exercises took approximately 45 minutes to complete.

Abstract Classification Experiences

1.Word Classification (presented bilingually)

I next taught the students ten word classification exercises and presented approximately one half of these exercises bilingually, i.e., the instructions and the written exercises were presented in Spanish followed by similar exercises in English. In this series of exercises, the students were asked to group the names of various objects into categories and provide a category label for each group. In order to help the students

begin to think of categories for words, I wrote the following words in Spanish and in English on the chalkboard: orange (naranja), lemon (limon), tangerine (mandarina), and grapefruit (toronja). I asked the students to provide a label for the words. Some answers included: fruits, things to eat, things with seeds or peels. However, the best label, "citrus fruit" (fruta de cidro), was identified as the most accurate. Next, I wrote chicken (pollo), veal (carne de ternura) and steak (biftec). These were easily identified as "meat" (carne). These were written next to the list of citrus fruits. I then asked the students to give a name that represented the general topic for both lists of words. "Food" (alimentos) was accepted as the main category heading for these words.

The word classification exercises progressed from easy to more difficult. In the first exercises, the students read three or four groups of related words which could be grouped under the appropriate category headings. The sub-categories were provided. The students were directed to write the sub-categories on their papers and then list the words beneath the appropriate one. As the exercises continued, the students were required to classify a collection of words into related groups, and provide (write) the sub-categories. The main category label was provided. The tasks increased in difficulty until the students classified lists of related words and then wrote the words for the sub- and main categories on their papers. Three exercises were presented in Spanish, followed by one exercise in English. An example of a Spanish language word classification exercise followed by an

English translation can be found in Figure 2. (The translations are provided for the reader. The Spanish language exercises I used were followed by similarly constructed exercises in English, not translations).

Insert Figure 2 about here

An example of a more difficult word classification exercise is presented in Figure 3. This lesson was presented entirely in English.

Insert Figure 3 about here

After the completion of each exercise, a class discussion followed, during which I asked the students to express their thinking processes while they completed the exercise. Some of the questions asked by I were: "Why did you put these words together?" "How are they related?" "What word could you use as a label for the lists of words?" "To what general class or category do all the words belong?" Through such class discussions, I helped the students understand the relationship of the words to the sub- and main categories. It took the students approximately two and one half class periods to complete the exercises.

2.Sentences (presented bilingually)

The students next completed ten sentence classification exercises. The students first completed two exercises in which both oral directions and writing were presented in Spanish. The

following three exercises were in English. In the first exercises, the students read groups of five related sentences and then circled the topic or category to which the sentences belonged. In the next exercises, the students read groups of four short sentences among which was the explicit main idea sentence. They were instructed to circle the main idea sentence. The exercises progressed in difficulty, until the students read a group of four sentences and wrote the main idea for the groups of sentences. I pointed out to the students that the sentence tasks were related in the same way as the object, picture, and word tasks were related, i.e., the strategy in identifying the main idea was the same as finding a relationship among the parts to the whole.

An example of a set of sentence exercises is presented in Figure 4. A Spanish language exercise is followed by an English translation in Group A. An example of the last type of exercise is presented in Group B (translations provided for the reader).

Insert Figure 4 about here

Each exercise consisted of five or six sets of related sentences. After the completion of each exercise, a class discussion followed. I explored with the students the strategies they used to identify as well as write the main idea of a group of related sentences. It took three class periods to complete this set of exercises.

3.Paragraphs.

After completing the previous exercises, I introduced the last phase of the exercises: applying the classification

strategies to help the students identify first the explicit and then the implicit main idea of paragraphs. Before beginning the paragraph exercises, I reviewed with the students the previous classification tasks and the relationship between classification and the concept of a main idea. I wrote the following on the chalkboard:

topic	main idea
item	detail
item	detail
item	detail

tópico(tema)	idea principal
artículo	detalle
artículo	detalle
artículo	detalle

The students were reminded that the reader must evaluate each detail of a passage and decide what the details mean when condidered together. I pointed out that the process is similar to that of generating a main category label (heading) after looking at the sub-category headings and then the related items listed under each category.

I began the paragraph exercises by having the students read a series of paragraphs and then circle the explicit main idea of each paragraph from a multiple choice selection. In the next three exercises, the students read a series of eight paragraphs and filled in the details on their exercise sheets. The explicit main idea was present only in the first three exercises. I reviewed with the students the processes involved in identifying the explicit main idea. I then demonstrated how the same strategies, which the students have been using, can be used to identify an implied main idea.

The students completed twelve paragraph exercises. The first exercise was conducted in Spanish, followed in the same class period by three English exercises. The students were able to complete four exercises per period. The following day, one exercise was presented in Spanish and three were presented in English. The exercises took three class periods to complete. The last exercises in the paragraph series were presented entirely in English. An example of the first series of paragraph exercises can be found in Figure 5, while a more advanced exercise is presented in Figure 6. The last type of paragraph exercise is presented in Figure 7.

Insert Figures 5, 6 & 7 about here

These lessons followed a sequential process including a variety of general-specific classification exercises ranging from concrete to abstract. Any instructor should have no difficulty designing his or her own lessons by developing exercises based on the model presented here. For example, paragraphs found in a variety of published workbooks as well as word lists can be easily modified to follow the exercises described in this report.

It has been my experience that before this type of instruction, most students realize, if only vaguely, the concept of the "main idea", but usually have no real strategy or technique for its identification. This system of lessons gives the students a very clear idea about the relationship between the details and the resulting main idea of a paragraph.

This series of exercises used the same concept of part-whole relationships throughout the teaching/learning process. As the exercises became more conceptually difficult, the students not only received reinforcement in their dominant language, but they were made aware at all times they were using the same part-whole thinking strategies in learning a reading skill. In addition, I consistantly reminded the students of their success at each level and that they now had the necessary skills to progress to a more difficult task. The students were enthusiastic about the series of lessons and stated they looked forward to each stage in the exercises. They appeared to enjoy the diversity of the assignments and the logic of what they were doing. These factors contributed to the success of the lessons.

In addition, the students did not seem to experience difficulty in the transition from Spanish to English exercises, as the process was gradual and logical. They also seemed to have acquired the Piagetian concept of thinking in part-whole relationships. Perhaps the best indicator of the success of this approach is that several students reported that they "had really learned something!"

Table 1.

Instructional Model

Level	Number of Exercises Spanish	English	Description
A. Concete Object Tasks	3	0	Classification of Concrete Objects
B. Pictorial Tasks	3	1	Classification of Pictures
C. Abstract (written) Language Tasks	6	4	Classification of Words
	2	8	Main Idea-Sentences
	2	10	Main idea-Paragraphs

Figure 1.

Sample lesson: classification of concrete objects

Materials: 3 paper squares - 1 blue,

1 orange, 1 yellow

3 paper triangles - 1 blue, 1 orange, 1 yellow

3 paper circles - 1 blue, 1 orange, 1 yellow

Directions: Divide students into pairs and give an envelope containing all nine shapes to each group of students.

1) Ask students to: a) arrange the shapes in as many classes or groups as they can; and b) name their groups orally.

2) Direct students to: a) choose a group of objects, b) put them into an envelope and c) label the objects by writing the label or topic on the outside of the envelope. As an example ask the students, "If you wrote 'shapes' on the outside of the envelope, what groups of things would you put into the envelope to support that idea?" Follow the same procedure using 'colors' as the topic of the objects.

Figure 2.

Sample word classification lesson: related groups, sub-categories provided (Spanish with English translation).

DIRECCIONES: Cada palabra en las listas abajo pertenece a una de las tres categorías.

1. Escriban Uds. los nombres de las tres categorías encima de sus papeles.

2. Pongan Uds. la palabras bajo la categoría correcta.

ALIMENTO	COSAS DE VIDRIO	EL TIEMPO
carne	lechuga	semana
ventana	segundo	hora
uvas	jamón	jarrón
pan	minuto	espejo

1. DIRECTIONS: Each word in the following lists fits into one of the three categories. Write the three category headings at the top of your page. Write the words under the correct category.

FOOD	GLASS	TIME
meat	lettuce	week
window	second	hour
grapes	ham	jar
bread	minute	mirror

Figure 3.

Example of word classification lesson: students group words, provide all category headings.

Directions: All of the words listed below go together in one large category. Make a list of the words that belong to the same group or category. Label each sub-category. Then label the large or main category for all the words.

---

a baby's cry	boom	mild
perfume	bitter	pine tree
smoke	ammonia	carrot
music	bell	chocolate

Figure 4.

Examples of sentence exercises

A. First Group: (Spanish with English translation)
Direcciones:

a. Lean Uds. el grupo de frases.
b. Indiquen Uds. con un círculo el número de la frase que explica la idea principal de las otras frases.

1. Los alumnos decidieron tener un proyecto sobre México.

2. Tendrán un mercado típico de México en su clase.

3. Invitarán a los otros alumnos a su clase para ver el mercado.

4. Hará comida mexicana.

Directions: Read each groups of sentences. Then circle the sentence that explains the main idea of the other sentences.

1. The students decided to have a project about Mexico.

2. They are going to have a typical Mexican market in their classroom.

3. They will invite the other students to their class to see the market.

4. There will be Mexican food.

B. Last Group.

Directions: Read each group of sentences. Write the main idea of each group of sentence on the line. (These directions and the written lesson were presented in English).

1. Common coal is carbon.

2. A diamond is actually made of carbon.

3. Carbon has many different forms.

4. Graphite, used in greasing automobiles, is made of carbon.

5. Carbon can be found in the soot in the chimney of a home.

MAIN IDEA----------

Figure 5

Paragraph task with main idea provided.

Directions: Read the paragraph and the four items that follow. Circle the letter for the item that best tells us the main idea of the paragraph.

1) A heavy rain followed by a spell of very cold weather often means death to thousands of cattle. Their wet coats turn into icy sheets. The frozen grass blades turn into uneatable spears of ice. Whole herds of cattle have died during such weather.

a. winter storms

b. how storms can affect cattle

c. what cattle are like in winter

d. why cattle need grass

Figure 6.

Paragraph tasks with students providing details and main idea.

Directions: Read each paragraph carefully. List the important details, then write the implied main idea.

1) An ant can pick up an object more than fifty times its own weight. A bee can pull a load more than one hundred fifty times its weight. If we were as strong in proportion to our size, we could pull a five ton trailer truck. If we had the jumping ability of a grasshopper, we could leap a third of the length of a football field!

DETAILS:

1.

2.

3.

4.

MAIN IDEA:

Figure 7.

Paragraph tasks for which student write implied main idea

---

1) When the bell rang after recess, all the children ran in and sat down in their chairs at the tables. They stared in amazement because the chalkboard was covered with writing and funny pictures. Suddenly, the large map fell off the wall with a loud crash. When everyone stared to laugh, the teacher got up from his desk, knocking over his chair.

MAIN IDEA:

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